

## REMARKS

Claims 14 and 20 are pending. Claims 15 and 31 have been canceled without prejudice or disclaimer and solely for the purpose of expediting prosecution. Claims 3-6, 8-9, 12-13, 16-19, 21-22, 24-25, and 27-28 were previously canceled. Claims 1-2, 7, 10-11, 23, 26, and 29-30 are withdrawn. Claims 14 and 20 have been amended to recite that the isolated recombinant megakaryocyte tyrosine kinase 1, or fusion protein thereof, has the amino acid sequence of SEQ ID NO. 2. Support for this amendment is found throughout the specification; see, for instance, the legend for Figure 9 at page 9 of the specification and the third and fourth paragraphs of page 13.

### II. Applicants overcome the Examiner's rejections

1. The Examiner states that “[T]he title of the invention is not descriptive.” Office Action at page 2. Applicants have amended the title to reflect that the claimed invention is directed to a “Novel Megakaryocytic Protein Tyrosine Kinases Kinase 1.”
2. The Examiner states that “[T]he abstract of the disclosure is objected to because the abstract is in two paragraphs.” Office Action at page 2. Accordingly, Applicants have combined the two paragraphs into one and have appended a clean copy of the abstract, on a separate sheet, to this paper.
3. Applicants have amended page 1 of the specification to relate the lineage of the present application, *i.e.*, that it is a divisional application of U.S. application serial no. 08/232,545, filed on April 22, 1994, now U.S. patent No. 6,506,578. Applicants also have submitted an Application Data Sheet conveying this lineage.
4. The Examiner rejected claims 14, 15, 20, and 31 under 35 U.S.C. § 112, second paragraph for (a) reciting “an isolated recombinant MKK1” in claim 14; (b) reciting Figures 1A, 1B, and 1C for the sequence of MKK1 in claim 15; and (c) for reciting “MKK1 protein.” Office Action at page 3.

Applicants have amended the claims to recite a “megakaryocyte tyrosine kinase 1” and to specify that the megakaryocyte tyrosine kinase 1 protein has the amino acid sequence

of SEQ ID NO. 2. For these reasons, Applicants respectfully request that the Examiner withdraw these rejections.

5. The Examiner rejected claims 14 and 20 under 35 U.S.C. § 112, first paragraph as lacking written description, because “the specification does not disclose all the MKK1 polypeptides.” Office Action at page 4.

Applicants have amended claims 14 and 20 to recite that a megakaryocyte tyrosine kinase 1 protein has the amino acid sequence of SEQ ID NO. 2, for which there is sufficient written description support. The Examiner acknowledges that “the specification discloses MKK1 polypeptide of SEQ ID NO. 2. This meets the written description and enablement provisions of 35 U.S.C. § 112, first paragraph” (emphasis added; Office Action at page 4). Accordingly, Applicants submit that there is written description for the presently claimed invention and respectfully request that the Examiner withdraw this rejection.

6. The Examiner rejected claims 14 and 20 under 35 U.S.C. § 112, first paragraph as lacking enablement because “the lack of description of the various MKK1 forms in the specification does not enable one of skilled in the art [to] make and/or use the invention.” Office Action at page 6.

Applicants’ amendment overcomes the rejection for the reasons cited in the previous subsection, which also is in keeping with the Examiner’s acknowledgement that an MKK1 of SEQ ID NO. 2 is enabled. See page 7 of the Office Action. Accordingly, Applicants submit that the presently claimed invention is enabled and respectfully requests that the Examiner withdraw this rejection.

7. Claims 14 and 15 are rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by Bennett *et al.*, *J. Biol. Chem.*, 269(2), pp. 1068-74, January 14, 1994, or Sakano *et al.*, *Oncogene*, 9(4), pp. 1155-61, April, 1994. Office Action at pages 8 and 9.

Applicants have filed herewith a declaration executed by Ricardo Martinez, a research scientist who was employed at Sugen, which is a collaborator of the assignee of the present application (Max-Planck). Dr. Martinez attests that he sequenced the claimed megakaryocyte

tyrosine kinase 1 before the publication date of Bennett *et al.* Since the declaration antedates both of the cited references, neither is available as prior art against the present claims.

Accordingly, none of the claims are anticipated and, thus, this rejection is moot.

8. Claims 20 and 31 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Bennett *et al.*, *supra*, or Sakano *et al.*, *supra*, in view of Maniatis *et al.*, 1982, pages 422-430. Office Action at page 9.

For the reasons cited in the preceding subsection, Ricardo Martinez's declaration evidences Applicants' isolation and identification of the DNA and amino acid sequences of megakaryocyte tyrosine kinase 1 prior to Bennett *et al.* and Sakano *et al.* Accordingly, neither may be combined with the referenced Maniatis publication. Therefore, none of the claims are rendered obvious and, thus, this rejection is moot.

### III. Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

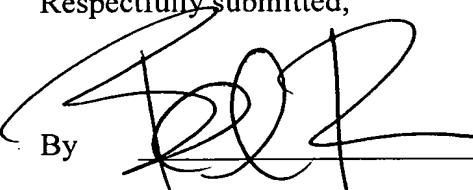
Date

March 2, 2004

FOLEY & LARDNER LLP  
Customer Number: 22428  
Telephone: (202) 672-5475  
Facsimile: (202) 672-5399

Respectfully submitted,

By

  
Beth A. Burrous  
Attorney for Applicant  
Registration No. 35,087

PROJECT

Notebook No. \_\_\_\_\_

3

Continued From Page \_\_\_\_\_

Continued From Page \_\_\_\_\_

Map Draw Analysis of ORF

Page 1

MKK1-3 consensus 4/12 Map (1 > 2053) Site and Sequence

Enzymes : All 335 enzymes (No Filter)

Settings: Linear, Certain Sites Only, Standard Genetic Code

GTGCAGCGGGACGCTCGGGTGTGCAGCCGGCTCGCGGAGGCCTCTGGGGGGGGSGCSCGGCGCGCT  
CACGTCGCCCTCGGAGCCACACGTCGGCCGAGCGCCTCCGGAGGACCCCCCCCCSCSGGCCCGCGCGA + 70

Only once

Below

SUG#301

SUG#313

V O R D A R V C S R L A E A S W G G ? ? G R G  
C S G T L G C A A G S R R P P G G G ? ? G A A  
C A A G R S G V O P A R G G L L G G G A R A R L

CGGGGGCGCCCCYTRAGCAGAAAACAGGRAGAACCGAGGCTGGTCHAGTGGCACCMAGCTCCCTACYTCY  
GCCCGCGGGGRAYTCGTCTTTGTCCYCTTGGTCCGASCCAGKTACCGTGGKTGAGGGATGRAGR + 140

Below

SUG#301

SUG#313

S G A P ? ? Q K T G R T R L G ? V A P S S L ? ?  
R G R P L S R K Q ? E P G ? V ? W H ? A P Y ?  
G G A P . A E N R ? N O A ? S S G T ? L P T S

KGTGCMAGCCGCCTKGCCGTGGCAGGCCAWTCCCARCGKYCCCGACTGTGACCACTTGCTAGTGTGCC  
MCACGKTGGCGAMCGGACACCGTCCGGTWAGGGTYGCMRGGGCTGACACTGGTGAACGAGTCACACGG + 210

Below

SUG#301

SUG#313

V ? A A ? P V A G ? S O R ? R L . P L A O C A  
? C ? P P ? L W O A ? P ? ? P D C D H L L S V P  
? A S R L A C G R P ? P ? ? P T V T T C S V C

Read and Understood By

for Mr

Signed

Date

Signed

Date

0 0 1 2 9 6

## MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

TCTCA~~C~~SDGYCYCAKTTCCCTCTGKGGGGCGATAGGC~~G~~GGC~~G~~AGGC~~T~~CTCTGGTTCC~~T~~GGCGGGCAT 280  
 AGAGTGSHCRGRGTMAAAGGGAGACMCCC~~G~~CTATCCG~~C~~CCG~~C~~CTCCGAGAGACCAAGGACC~~G~~CCC~~G~~TA

Below

SUG#301

SUG#313

SUG#304

SUG#304

S H ? ? ? F P S ? G R . A ? R G S L V S W R A  
 L T ? ? ? F P L ? G D R R G E A L W F P G G H  
 L S ? ? ? S L ? G A I G ? A R L S G F L A G ]

TTCACGGCTGTGATTCTGCTGAGGA~~A~~CTTCCCCGGGTGAGCCCCGCTTCC~~T~~CCGAGCC~~T~~GGCACCCCCC 350  
 AAGTGCCGACACTAAGACGACTC~~T~~TGAAGGGGCCACTCGGGGGGAAGGAGGCTCGGACC~~G~~TGGGGGG

One strand

SUG#313

SUG#304

SUG#304

F H G C D S A E E L P R V S P R F L R A W H P P  
 F T A V I L L R N F P G . A P A S S E P G T P  
 S R L . F C . G T S P G E P P L P P S L A P P

TCCC~~G~~TCTCAGCCAGG~~A~~TGCCAACGAGGGC~~G~~CTGGGCCCCGGG~~C~~ACCCAGTGTAT~~C~~ACCAAAT~~G~~C~~G~~AGCAC 420  
 AGGGCAGAGTCGGT~~C~~CTACGGTTGCTCC~~G~~GACCCGGGGCC~~G~~GGT~~C~~ACATAGTGGTTACG~~C~~TC~~G~~TG

One strand

SUG#313

SUG#313

SUG#304

SUG#304

SUG#301

P V S A R M P T R R W A P G T O C I T K C E H  
 L P S O P G C O R G A G P R A P S V S P N A S T  
 S R L S O D A N E A L G P G H P V Y H O M R A

light-yellow ombres show identical ombres found in human  
 cyl. (P.2)

RR Mr.

M. H. S.

PRO

## MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

ACCCGCCCAAGCCAGGGAGCTGGCCTCCGCAAGGGCACGTGGTACCATCCTGGAGGGCTGCGAGA 490  
 TGGCGGGGTTGGTCCCCTGACCGGAAGGCAGTCCGCTGACCAGTGGTAGGACCTCCGGACGCTCT

One strand

Below

SUG#313

SUG#313

SUG#304

SUG#304

SUG#301

T R P K P G E L A F R K G D V V T I L E A C E  
 P A P S O G S W P S A R A T W S P S W R P A R  
 H P P O A R G A G L P O G R R G H H P G G L R E

ACAAGAGCTGGTACCGCGTCAAGCACCAACCAAGTGGACAGGAGGGCTGCTGGCAGCTGGGCGCTGCG 560  
 TGTTCGACCATGGCGAGTTCTGGTGTGGTCACCTGTCTCCCCGACGACCGTCGACCCCGACCG

Below

SUG#313

SUG#313

SUG#304

SUG#304

SUG#301

SUG#301

N K S W Y R V K H H T S G O E G L L A A G A L R  
 T R A G T A S S T T P V D R R R G C W O L G R C  
 Q E L V P R O A P H O W T G G A A G S W G A A

GGAGCGGGAGGCCCTCTCCGAGACCCAAGCTCAGCCTCATGCCGTGGTCCACGGGAAGATCTGGGC 630  
 CCTCGCCCTCCGGAGAGGGCTCTGGGTTCTGGAGTCGGAGTACGGCACCAAGGTGCCCTCTAGAGCCCG

Below

SUG#313

SUG#313

SUG#293

SUG#304

Above

SUG#301

SUG#301

G E R E A L S A D P K L S L H P W F H G K I S G  
 G S G R P S P O T P S S A S C R G S T G R S R A

Signed

Date

Signed

merry

0 0 1 2 9 7

MKK1-3, consensus 4/12 Map (1 > 2053) Site and Sequence

G A G G P L R R P O A O P H A V V P R E D L G

CAGGAGGCTGTCCAGCACCTGCAGCCCTCCCGAGGATGGGCTGTTCTGGTGCAGGGAGTCCGCACCCACC  
GTCCCTCCGACAGGTCTCGTCAGCTCGGAGGGCTCTACCCGACAAGGACCAAGCCCTCAGGCACGGTGG 700

SUG#313

SUG#313

SUG#313

SUG#293

Above

SUG#301

SUG#301

SUG#313

SUG#293

O E A V V O Q L Q P P E D G L F L V R E S A R H  
R R L S S S C S L P R M G C S W C G S P R A T  
P G G C P A A A A S R G W A V P G A G V R A P P

CCGGCGACTACGTCTGTGCGTGAGCTTGGCCGCGACGTATCCACTACCCGCGTGCACCGCAGGG 770  
GCCCGCTGATGCAGGACACCGCACTCGAAACCGGGCGTGCAGTAGGTGATGGCGCACGACGTGGCGCTGCC

SUG#313

SUG#313

SUG#313

SUG#293

Above

SUG#301

SUG#313

SUG#293

P G D Y V L C V S F G R D V I H Y R V L H R D G  
P A T T S C A . A L A A T S S T T A C C T A T  
R R L R P V R E L W P R R H P L P R A A P R R

KR <sup>Signed</sup>

Date

MR

## MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

CCACCTCACAACTGATGAGGCCGTCTCTGCAACCTATGGACATGGTGGAGCATTACAGCAAGGAC 840  
GGTGGAGTAGCTACTCCGGACAAGAACGTTGGAGTACCTGTACCCACCTCGTAATGTCGTTCTG

SUG#313

SUG#313

SUG#313

SUG#293

Above

SUG#313

SUG#313

SUG#293

H L T I D E A V F F C N L M D M V E H Y S K D  
A T S Q S M R P C S S A T S W T W W S I T A R T  
P P H N R . G R V L L O P H G H G G A L O O G

AAGGGCGCTATCTGCACCAAGCTGGTGGAGACCAAGCGGAAACACGGGACCAAGTCGGCCGAGGGAGC 910  
TTCCCGCGATAGACGTGGTTGACCACTCTGGTTTCGCCCTGGTTAGCCGGCTCCCTCTCG

SUG#313

SUG#313

SUG#313

SUG#293

Above

SUG#313

SUG#313

SUG#293

K G A I C T K L V R P K R K H G T K S A E E E  
R A L S A P S W . D O S G N T G P S R P R R S  
O G R Y L H Q A G E T K A E T R D Q V G R G G A

TGGCCAGGGCGGGCTGGTTACTGAACCTGCAGCATTGACATTGGGAGCACAGATCGGAGAGGGAGAGTT 980  
ACCGGTCCCCCCCCGACCAATGACTGGACGTCGAAACTGTAACCCCTCGTGTAGCCCTCCCTCTCAA

SUG#313

SUG#313

SUG#313

SUG#282

SUG#293

Above

SUG#313

SUG#282

SUG#313

R57 MA

M. P. 200

MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

SUG#293

L A R A G W L L N I O H L T L G A O I G E G E F  
 W P G R A G Y . T C S I H W E H R S E R E S  
 G O G G L V T E P A A F D I G S T D R R G R V

T G G A C Y T G Y C C T G C A G G G T G A G T A C C T G G G G C A A A G G T G G C C G T G A A G A A T A T C A A G T G T G A T G T K A C A  
 A C C T C R A C R G G A C G T C C C A C T C A T G G A C C C G T T T C C A C C G G C A C T C T T A T A G T T C A C A C T A C A M T G T

1050

SUG#313

SUG#313

SUG#282

SUG#293

Above

SUG#313

SUG#282

SUG#313

SUG#293

SUG#301

(Dots) (J)  
 (G) ? ? L O G E Y L G O K V A V K N I K C D V T  
 L E L ? C R V S T W G K R W P . R I S S V M ? Q  
 W S C P A G . V P G A K G G R E E Y O V . C ?

G C C C A G G C C T T C T G G A C G A G A C G G C C G T C A T G A C G A A G A T G C A A C A C G A G A A C C T G G T G C G T C T C C T G G  
 C G G G T C C G G A A G G A C C T G C T C T G C C G G C A G T A C T G C T T C A C G T T G C T C T T G G A C C A C G C A G A G G A C C

1120

SUG#313

SUG#313

SUG#282

SUG#29

SUG#304

Above

SUG#313

SUG#282

SUG#313

5'end

SUG#301

A O A F L D E T A V H T K H O H E N L V R L L  
 P R P S W T R R P S . R R C N T R T W C V S W  
 S P G L P G R D G R H D E D A T R E P G A S P G

for M&amp;H

M&amp;H

## PP MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

GCGTGATCCTGCACCAGGGCTGTACATTGTCACTGGAGCACGTGAGCAAGGGCAACCTGGTGAACCTTCT

1190

CGCACTAGGACGTGGTCCCCGACATGTAACAGTACCTCGTGCACTCGTCCCCGGACCACTGAAAGA

SUG#313

SUG#313

SUG#304

SUG#282

SUG#304

Above

SUG#313

SUG#282

SUG#313

5'end

SUG#301

G V I L H O G L Y I V M E H V S K G N L V N F L  
 A . S C T R G C T L S W S T . A R A T W . T F  
 R D P A P G A V H C H G A R E Q G Q P G E L S

GCGGACCCGGGGTCGAGCCCTCGTGAACACCGCTCAGCTCTGCAGTTTCTCTGCACGTGGCCGAGGGC  
 CGCCTGGGCCCCAGCTCGGGAGCACTTGTGGCGAGTCGAGGACGTCAAAAGAGACGTGCACCGCTCCG

1260

SUG#313

SUG#304

SUG#282

SUG#304

Above

SUG#304

SUG#282

SUG#313

5'end

SUG#301

SUG#304

R T R G R A L V N T A O L L O F S L H V A E G  
 C G P G V E P S . T P L S S C S F L C T W P R A  
 A D P G S S P R E H R S A P A V F S A R G R G

R.R. Mtn.

Signed

Date

m. bent

Signed

Date

001299

## MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

ATGGAGTACCTGGAGAGCAAGAAGCTTGTGCACCGCGACCTGGCCGCCGCAACATCCTGGTCTCAGAGG  
TACCTCATGGACCTCTCGTTCTCGAACACGTGGCGCTGGACCGGGGGCTTGTAGGACCAGAGTCTCC

1330

SUG#313

SUG#304

SUG#282

SUG#304

Above

SUG#304

SUG#282

SUG#313

SUG#313

5'end

SUG#304

SUG#304

MKK-1

M E Y L E S K K L V H R D L A A R N I L V S E  
W S T W R A R S L C T A T W P P A T S W S O R  
H G V P G E O E A C A P R P G R P O H P G L R G

1400

ACCTGGTGGCCAAGGTCAAGCGACTTGGCCTGGCAAAGCCGAGCGGAAGGGGCTAGACTCAAGCCGGCT  
TGGACCACCGGTTCCAGTCGCTGAAACCGGACCGGTTCCGGCTCGCCTTECCCAGATCTGAGTTGGCCGA

SUG#313

SUG#304

SUG#304

SUG#304

SUG#304

SUG#282

SUG#313

SUG#282

SUG#304

SUG#304

MKK-1

D L V A K V S D F G L A K A E R K G L D S S R L  
T W W P R S A T L A W P K P S G R G . T Q A G  
P G G O G O R L W P G O S R A E G A R L K P A

R.R. M.L.

Signed

Date

Signed

Date

PRO

MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

GCCCGTCAAGTGGACGGCGCCCGAGGCTCTAAACACGGGAAGTTACCCAGCAAGTCGGATGTCGGAGT  
 CGGGCAGTTCACCTGCCGCCGGCTCCGAGAGTTGTGCCCTCAAGTGGTCGTTCAAGCCTACAGACCTCA

1470

Below

SUG#304

SUG#304

Above

SUG#304

SUG#282

SUG#313

SUG#282

SUG#304

SUG#304

MKK-1

P V K W T A P E A L K H G K F T S K S D V W S  
 C P S S G R R P R L S N T G S S P A S R M S G V  
 A R O V D G A R G S O T R E V H O O V G C L E

1540

TTTGGGGTGCCTGCTCTGGAGGTCTTCATATGGACGGGCTCCGTACCCCTAAATGTCACTGAAAGAGG  
 AAACCCCACGACGAGACCCCTCCAGAAGAGTATACCTGCCGAGGCATGGGATTTACAGTGA CTTCTCC

Below

SUG#304

SUG#304

SUG#282

SUG#313

SUG#282

SUG#304

F G V L L W E V F S Y G R A P Y P K M S L K E  
 L G C C S G R S S H M D G L R T L K C H . K R  
 F W G A A L G G L L I W T G S V P . N V T E R G

R.R. M.R.

Signed

M. M. M. M.

Date

Possible ORF start

Terminator (in cap in bold) Page 10  
35 aa later (see p. 22)

MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

TGTCGGAGGCCCTGGAGAAGGGTACCGCATGGAACGCCCGAGGGCTGTCCAGGGCCGTGCACGTTACT  
ACAGCCTCCGGGACCTCTCCCCATGGCGTACCTTGGGGGGCTCCGACAGGTCCGGGACGTGCATGA

1610

Below One strand

SUG#293

SUG#304

SUG#282

SUG#313

SUG#282

SUG#304

V S E A L E K G Y R M E P P R G S R P V H V L  
C R R P W R R G T A W N P P E G C P G P C T Y  
V G G P G E G V P H G T P P R A V O A R A R T

CATGAGCAGCTGCTGGGAGGCAGAGCCCCGCCGCCACCCCTCCGCAAACCTGGCCGAGAAGCTGGCCC  
GTACTCGTCGACGACCCCTCCGTCTCGGGCGGCCGGCGGTGGAAAGGCCTTGACCGGCTTTGACCGGCTTTGACCGGGG

1680

One strand Below

SUG#293

#267

SUG#293

SUG#282

SUG#282

SUG#304

M S S C W E A E P A A G H P S A N W P R S W P  
S C A A A G R O S P P P P A T L P O T G R E A G P  
H E O L L G G R A R R R P P F R K L A E K L A

GGGAGCTACCGACTGCAGGTGCCAGGCTCCGTTCTAGGGCAGGACGCCAGGGCTCCACCTGCC  
CCCTCGATGCCGTCACTCCACGGGTGGAGGCAAGAGTCCCGCTGCCTGCCAGGTGGAGCGGGG

1750

Below

SUG#293

#267

SUG#293

SUG#282

SUG#304

G S Y A V O V P Q P P F S G O D A D G S T S P  
G A T O C R C P S L R S Q G R T P T A P P R P

Rein

Mf

PRC

## MKK1-3 consensus 4/12 Map (1 &gt; 2053) Site and Sequence

R E L R S A G A P A S V L R A G R R R L H L A P

GAAGCCAGGAGCCCTGACCCCACCCGGTGGGGCCCTTGGCCAGAGGACCGAGAGAGTGGAGAGTACGGC 1820  
CTTCGGTCCCTGGGACTGGGTGGGCCACCCGGAACCGGGTCTCTGGCTCTCACCTCTCATGCCG

Below

SUG#293

#267

SUG#293

SUG#304

R S D E P . P H P V G P L A O R T E R V E S T A  
E A R S P D P T R W G P W P R G P R E W R V R  
K P G A L T P P G G A L G P E D R E S G E Y GGTGGGGGCACTGACCAGGCCAAGGAGGGTCCAGGCAGGCAAGTCATCCTCCTGGTCCCCACAGCAGGGG 1890  
CACCCCGTGACTGGTCCGGTTCCCTCCAGGTCGCCGTTCACTAGGAGGACACGGGTGTCGTCCCC

Below

SUG#293

#267

SUG#293

W G H . P G P R R V Q A G K S S S W C P Q Q G  
R G G T D O A O G G S R R A S H P P G A H S R G  
V G A L T R P K E G P G G O V I L L V P T A GCTGGCCCACGTAGGGGGCTCTGGGCGGCCCCGTGGACACCCAGACCTGCGAAGGATGATCGCCCGATAAA 1960  
GACCGGGTGCATCCCCGAGACCCGCCGGCACCTGTGGGGTCTGGACGCTTCACTAGCGGGCTATTT

Below

SUG#293

#267

SUG#293

L A H V G G S G R P V D T P D L R R M I A R .  
W P T . G A L G G P W T P O T C E G . S P D K  
A G P R R G L W A A R G H P R P A K D D R P I K

R2 Mh

Signed

Date

m/s/

001301

## MKK1-3 consensus 4/12 Map (1 → 2053) Site and Sequence

GACGGATTCTAAGGACTCTAAAAAGGGGGGGCCCGTACCCAAATTGCCCTATAGTGAGTCGTATTA  
CTGCCTAAGATTCTGAGATTTTCCCCCGGCCATGGGTTAAGCGGGATATCACTCAGCATAATT 2030

Below → Only once  
 SUG#293 →  
 #267 →  
 SUG#293

R R I L R T L K K G G A R Y P I R P I V S R I K  
D G F . G L . K K G G P G T O F A L . V V L  
T D S K D S K K R G G P V P N S P Y S E S Y .

AATTAACTGGCCGTCTTTAAT 2053  
TTAATTGACCGGCAGAAATTA

Only once →  
 SUG#293 →  
 I N W P S F .  
K L T G R R F N  
N . L A V V L M →

re dhr

mfest